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<110> Hayward, Nicholas K.
       Weber, Gunther
       Grimmond, Sean
       Nordenskjold, Magnus
       Larsson, Catharina
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 <130> DAVIES
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<141> 1996-02-22
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Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp
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70

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atc	aaa	cct	cac	caa	ggc	cag	cac	ata	gga	gag	atg	agc	ttc	cta	cag	388
Ile	Lys 110	Pro	His	Gln	Gly	Gln 115	His	Ile	Gly	Glu	Met 120	Ser	Phe	Leu	Gln	
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Asp	Pro	Gln	Thr 160	Cys	Lys	Cys	Ser	Cys 165	Lys	Asn	Thr	Asp	Ser 170	Arg	Cys	
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<213> Nucleotide Sequence of VEGF165

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Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val 50 55 60

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly 65 70 75 80

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
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Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
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Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys 115 120 125

Lys Asp Ser Ala Val Lys Pro Asp Arg Ala Ala Thr Pro His His Arg 130 135 140

Pro Gln Pro Arg Ser Val Pro Gly Trp Asp Ser Ala Pro Gly Ala Pro 145 150 155

Ser Pro Ala Asp Ile Thr His Pro Thr Pro Ala Pro Gly Pro Ser Ala

The first fi

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Gln Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys
35 40 45

cag ccc cgg gag gtg gtg ccc ttg act gtg gag ctc atg ggc acc 191

Gln Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr
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Val Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly 65 70 75

ggc tgc tgc cct gac gat ggc ctg gag tgt gtg ccc act ggg cag cac 287

Gly Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His 80 85 90 95

caa gtc cgg atg cag atc ctc atg atc cgg tac ccg agc agt cag ctg 335

Gln Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu 100 105 110

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Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
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Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
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                                 105
Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
                            120
Lys Asp Ser Ala Val Lys Pro Asp Ser Pro Arg Pro Leu Cys Pro Arg
    130
                        135
Cys Thr Gln His His Gln Arg Pro Asp Pro Arg Thr Cys Arg Cys Arg
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                                                                  95
Leu Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His
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Val	Ala 65	Lys	Gln	Leu	Val	Pro 70	Ser	Cys	Val	Thr	Val 75	Gln	Arg	Cys	Gly	
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caa	gtc	cgg	atg	cag	atc	ctc	atg	atc	cgg	tac	ccg	agc	agt	cag	ctg	335
Gln	Val	Arg	Met	Gln 100	Ile	Leu	Met	Ile	Arg 105	Tyr	Pro	Ser	Ser	Gln 110	Leu	
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Gly	Glu	Met	Ser 115	Leu	Glu	Glu	His	Ser 120	Gln	Cys	Glu ,	Cys	Arg 125	Pro	Lys	
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Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln
Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
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Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
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Gln	Arg	Lys	Val 35	Val	Ser	Trp	Ile	Asp 40	Val	Tyr	Thr	Arg	Ala 45	Thr	Cys	
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Gln	Pro	Arg 50	Glu	Val	Val	Val	Pro 55	Leu	Thr	Val	Glu	Leu 60	Met	Gly	Thr	
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Val	Ala 65	Lys	Gln	Leu	Val	Pro 70	Ser	Cys	Val	Thr	Val 75	Gln	Arg	Cys	Gly	
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Gly 80	Cys	Cys	Pro	Asp	Asp 85	Gly	Leu	Glu	Cys	Val 90	Pro	Thr	Gly	Gln	His 95	
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Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
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Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
Val Arg Met Gln Thr
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ggcggctctg	gctgaccccc	ccccacaccg	ccgggctagg	gcccg atg	agc ccc ctg	177
				Met 1	Ser Pro Leu	
cta cat ca	e cta cta ct	tt gtt gca d	ctg ctg caq	ctg gct cg	c acc cag	225

Leu 5	Arg	Arg	Leu	Leu	Leu 10	Val	Ala	ьеu	ьeu	15	Leu	ALA	Arg	Thr	20	
gcc	cct	gtg	tcc	cag	ttt	gat	ggc	CCC	agt	cac	cag	aag	aaa	gtg	gtg	273
Ala	Pro	Val	Ser	Gln 25	Phe	Asp	Gly	Pro	Ser 30	His	Gln	Lys	Lys	Val 35	Val	
cca	tgg	ata	gac	gtt	tat	gca	cgt	gcc	aca	tgc	cag	CCC	agg	gag	gtg	321
Pro	Trp	Ile	Asp 40	Val	Tyr	Ala	Arg	Ala 45	Thr	Cys	Gln	Pro	Arg 50	Glu	Val	
gtg	gtg	cct	ctg	agc	atg	gaa	ctc	atg	ggc	aat	gtg	gtc	aaa	caa	cta	369
Val	Val	Pro 55	Leu	Ser	Met	Glu	Leu 60	Met	Gly	Asn	Val	Val 65	Lys	Gln	Leu	
gtg	ccc	agc	tgt	gtg	act	gtg	cag	cgc	tgt	ggt	ggc	tgc	tgc	cct	gac	417
Val	Pro 70	Ser	Cys	Val	Thr	Val 75	Gln	Arg	Cys	Gly	Gly 80	Cys	Cys	Pro	Asp	
gat	ggc	ctg	gaa	tgt	gtg	CCC	act	ggg	caa	cac	caa	gtc	cga	atg	cag	465
Asp 85	Gly	Leu	Glu	Cys	Val 90	Pro	Thr	Gly	Gln	His 95	Gln	Val	Arg	Met	Gln 100	
atc	ctc	atg	atc	cag	tac	ccg	agc	agt	cag	ctg	ggg	gag	atg	tcc	ctg	513
Ile	Leu	Met	Ile	Gln 105	Tyr	Pro	Ser	Ser	Gln 110	Leu	Gly	Glu	Met	Ser 115	Leu	
gga	gaa	cac	agc	caa	tgt	gaa	tgc	aga	cct	aaa	aaa	aag	gag	agt	gct	561
Gly	Glu	His	Ser 120	Gln	Cys	Glu	Cys	Arg 125	Pro	Lys	Lys	Lys	Glu 130	Ser	Ala	
gtg	agg	cca	gac	agg	gtt	gcc	ata	CCC	cac	cac	cgt	CCC	cag	CCC	cgc	609
Val	Arg	Pro 135	Asp	Arg	Val	Ala	Ile 140	Pro	His	His	Arg	Pro 145	Gln	Pro	Arg	
tct	gtt	ccg	ggc	tgg	gac	tct	acc	ccg	gga	gca	CCC	tcc	cca	gct	gac	657
Ser	Val 150	Pro	Gly	Trp	Asp	Ser 155	Thr	Pro	Gly	Ala	Pro 160	Ser	Pro	Ala	Asp	
atc	atc	cat	CCC	act	cca	gcc	сса	gga	tcc	tct	gcc	cgc	ctt	gca	CCC	705
Ile 165	Ile	His	Pro	Thr	Pro 170	Ala	Pro	Gly	Ser	Ser 175	Ala	Arg	Leu	Ala	Pro 180	
agc	gcc	gcc	aac	gcc	ctg	acc	ccc	gga	cct	gcc	gtt	gcc	gct	gta	gac	753
Ser	Ala	Ala	Asn	Ala	Leu	Thr	Pro	Gly	Pro	Ala	Val	Ala	Ala	Val	Asp	

gec gec get tee tee att gec aag gge ggg get tag ageteaacee 799
Ala Ala Ala Ser Ser Ile Ala Lys Gly Gly Ala
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195

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185

1242

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<211> 207

<212> PRT

<213> mVRF

<400> 17

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Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Val Ala Leu Leu Gln Leu 1 5 10 15

Ala Arg Thr Gln Ala Pro Val Ser Gln Phe Asp Gly Pro Ser His Gln 20 25 30

Lys Lys Val Val Pro Trp Ile Asp Val Tyr Ala Arg Ala Thr Cys Gln 35 40 45

Pro Arg Glu Val Val Pro Leu Ser Met Glu Leu Met Gly Asn Val 50 55 60

Val Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln, Arg Cys Gly Gly 65 70 75 80

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
85 90 95

Val Arg Met Gln Ile Leu Met Ile Gln Tyr Pro Ser Ser Gln Leu Gly 100 105 110

Glu Met Ser Leu Gly Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys 115 120 125

Lys Glu Ser Ala Val Arg Pro Asp Ser Pro Arg Ile Leu Cys Pro Pro 130 135 140

Cys Thr Gln Arg Arg Gln Arg Pro Asp Pro Arg Thr Cys Arg Cys Arg 145 150 155 160

Cys Arg Arg Arg Phe Leu His Cys Gln Gly Arg Gly Leu Glu Leu 165 170 175

Asn Pro Asp Thr Cys Arg Cys Arg Lys Pro Arg Lys 180 185

<210> 19 <211> 188

<212> PRT <213> hVRF167

<400> 19

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Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln 20 25 30

Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln 35 40 45

Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val 50 55 60

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly 65 70 75 80

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
85 90 95

Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
100 105 110

Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys 115 120 125

Lys Asp Ser Ala Val Lys Pro Asp Ser Pro Arg Pro Leu Cys Pro Arg 130 135 140,

Cys Thr Gln His His Gln Arg Pro Asp Pro Arg Thr Cys Arg Cys Arg 145 150 155 160

Cys Arg Arg Ser Phe Leu Arg Cys Gln Gly Arg Gly Leu Glu Leu 165 170 175

Asn Pro Asp Thr Cys Arg Cys Arg Lys Leu Arg Arg 180 185

<210> 20

<211> 71

<212> PRT

<213> mVRF186

<400> 20

Arg Val Ala Ile Pro His His Arg Pro Gln Pro Arg Ser Val Pro Gly
1 1 15

Trp Asp Ser Thr Pro Gly Ala Pro Ser Pro Ala Asp Ile Ile His Pro
20 25 30

Thr Pro Ala Pro Gly Ser Ser Ala Arg Leu Ala Pro Ser Ala Ala Asn 35 40 45 Ala Leu Thr Pro Gly Pro Ala Val Ala Ala Val Asp Ala Ala Ala Ser 50 55 60

Ser Ile Ala Lys Gly Gly Ala
65 70

<210> 21

<211> 71

<212> PRT

<213> hVRF186

<400> 21

Arg Ala Ala Thr Pro His His Arg Pro Gln Pro Arg Ser Val Pro Gly
1 5 10 15

Trp Asp Ser Ala Pro Gly Ala Pro Ser Pro Ala Asp Ile Thr His Pro 20 25 30

Thr Pro Ala Pro Gly Pro Ser Ala His Ala Ala Pro Ser Thr Thr Ser 35 40 45

Ala Leu Thr Pro Gly Pro Ala Ala Ala Ala Ala Asp Ala Ala Ala Ser 50 55 60

Ser Val Ala Lys Gly Gly Ala 65 70

<210> 22

<211> 214

<212> PRT

<213> mVEGF188

<400> 22

Met Asn Phe Leu Leu Ser Trp Val His Trp Thr Leu Ala Leu Leu Leu $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Thr Thr Glu Gly 20 25 30

Glu Gln Lys Ser His Glu Val Ile Lys Phe Met Asp Val Tyr Gln Arg
35 40 45

Ser Tyr Cys Arg Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu Tyr
50 55 60

Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu Met 65 70 75 80

Arg Cys Ala Gly Cys Cys Asn Asp Glu Ala Leu Glu Cys Val Pro Thr
85 90 95

Ser Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His Gln 100 105 110

Ser Gln His Ile Gly Glu Met Ser Phe Leu Gln His Ser Arg Cys Glu 115 120 125

Cys Arg Pro Lys Lys Asp Arg Thr Lys Pro Glu Lys Lys Ser Val Arg 130 135 140

Gly Lys Gly Lys Gly Gln Lys Arg Lys Arg Lys Ser Arg Phe Lys 145 150 155 160

Ser Trp Ser Val His Cys Glu Pro Cys Ser Glu Arg Arg Lys His Leu 165 170 175

Phe Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp 180 185 190

Ser Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg 195 200 205

Cys Asp Lys Pro Arg Arg 210